



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,633	08/01/2006	Hanspeter Steffen	2360-0435PUS1	8977
2252	7590	03/29/2011 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747		
		EXAMINER FOLEY, SHANON A		
		ART UNIT 1619		PAPER NUMBER
		NOTIFICATION DATE 03/29/2011		DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/552,633	<b>Applicant(s)</b> STEFFEN, HANSPIETER
	<b>Examiner</b> SHANON A. FOLEY	<b>Art Unit</b> 1619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 20 January 2011.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,2,5-7 and 10-15 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,2,5-7 and 10-15 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-878)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
     Paper No./Mail Date 1/4/11
- 4) Interview Summary (PTO-413)  
     Paper No./Mail Date \_\_\_\_\_  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

## **DETAILED ACTION**

### **Information Disclosure Statement**

Reference number 10 in the information disclosure statement filed January 4, 2011 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

### **Claim Objections**

Claim 10 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim is drawn to “[b]iocidal application of the method for the protection of crops according to claim 1....”. “Biocidal application” is a method step already required in claim 1. There is no distinction between the active application or the product being applied between instant claims 10 and 1.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2 and 5-7 remain rejected for reasons of record and claims 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith, Jr. et al. (US 5,816,498), hereinafter “Smith”, Pryor (US 6,173,527) and Castenberg et al. (US 5,213,759), hereinafter “Castenberg”.

Regarding instant claim 10, the claim is currently amended, but fails to further limit the requirements of instant claim 1. Therefore, claim 10 is currently rejected under the same grounds stated previously for instant claim 1:

Smith teaches an ozonation system for spraying crops. The device of Smith may be part of a tractor or a platform that is pulled behind a tractor, see column 5, lines 31-36 and comprises an insulated water tank, covered lateral spray-booms with pipings, a water-pressure pump, an air compressor that blows spray mist, an electric generator with control pumps, an air separator for oxygen production, an ozonated water pump, venture valve, turbine mixer for ozone, ozone gas adjuster and an ozone-concentration measurement device, see Figures 1-3D, column 1, line 57 to column 2, line 4, lines 36-67, column 3, line 35 to column 4, line 5, column 5, lines 23-30 and claims 1-11.

Smith does not teach or suggest the device comprising a first tank comprising untreated water for moistening plants and a second tank comprising ozone-containing water that is applied after moistening.

Pryor teaches first irrigating the top soil before applying ozone, see column 3, line 44 to column 4, line 11 and lines 50-59 and column 6, lines 16-36.

One of ordinary skill in the art at the time the invention was made would have been motivated to irrigate the soil prior to applying ozone to encourage nutrient passage to plant cell walls, see column 3, lines 61-67 of Pryor et al.

While Pryor specifically teach that ozone is generated from conventional ultraviolet light, see column 12, lines 19-20, neither Smith nor Pryor teach generating ozone using UV-C lamps.

Castenberg teaches UV-C in combination with a moist ozone kills microorganisms, see column 4, lines 9-14, column 6, lines 41-45 and claims 5, 8 and 9.

One of ordinary skill in the art at the time the invention was made would have been motivated to apply UV-C light to a moist ozone source, taught by Castenberg, to prevent infection of plants.

With regard to instant claims 11-16, Castenberg teaches UV-C lamps in combination with moist ozone, see column 4, lines 9-14, column 6, lines 41-45 and claims 5, 8 and 9. Smith teaches an insulated water tank, covered lateral spray-booms with pipings, a water-pressure pump, an air compressor that blows spray mist, an electric generator with control pumps, an air separator for oxygen production, an ozonated water pump, venture valve, turbine mixer for ozone, ozone gas adjuster and an ozone-concentration measurement device, see Figures 1-3D, column 1, line 57 to column 2, line 4, lines 36-67, column 3, line 35 to column 4, line 5, column 5, lines 23-30 and claims 1-11.

Smith does not teach or suggest the device comprising a first tank comprising untreated water for moistening plants and a second tank comprising ozone-containing water that is applied after moistening.

Pryor teaches first irrigating the top soil before applying ozone, see column 3, line 44 to column 4, line 11 and lines 50-59 and column 6, lines 16-36.

One of ordinary skill in the art at the time the invention was made would have been motivated to irrigate the soil prior to applying ozone to encourage nutrient passage to plant cell walls, see column 3, lines 61-67 of Pryor et al.

#### **Response to Arguments**

Applicant argues that there is no UV-irradiation, no wetting with an inorganic wetting agent and no use of dipole-electric air-jet spray technology taught in the prior art references cited.

Applicant's arguments and a review of the references have been fully considered, but are found unpersuasive. Castenberg explicitly teaches UV-C irradiation, see column 4, lines 9-14, column 6, lines 41-45 and claims 5, 8 and 9. Both Smith and Pryor explicitly applying water, which is an inorganic wetting agent, see claims 10-14 of Smith and column 3, lines 61-67 of Pryor et al.

While none of the references specifically recite the term, "dipole-electric air-jet spray technology", it is evident from paragraphs [0041 and 0091] of the instant disclosure, as well as the last paragraph on page 8 of the instant "Remarks" that this phrase means "mist spraying". Mist spraying is encompassed by the teachings of Smith, see column 5, lines 23-30.

Applicant additionally argues that Pryor's method of irrigating topsoil is inapplicable to systems using mist spraying techniques because of the differences in spray type and spray effect.

Applicant's arguments and a review of Pryor have been fully considered, but are found unpersuasive. Smith teaches the required method of spray-misting plants. The teachings of Pryor are used to demonstrate motivation for first applying untreated water to moisten plants, followed by treatment with ozone-containing water that is applied after moistening. One of

ordinary skill in the art at the time the invention was made would have been motivated to irrigate the soil prior to applying ozone to encourage nutrient passage to plant cell walls, see column 3, lines 61-67 of Pryor et al. The explicit method of application of the water and ozone to the plants and/or crops would have been well within the purview of the ordinary artisan at the time the invention was made.

### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHANON A. FOLEY whose telephone number is (571)272-0898. The examiner can normally be reached on flex, generally M-F 7AM - 3 PM, alternate Fridays off.

Art Unit: 1619

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Wax can be reached on (571) 272-0623. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SHANON A. FOLEY/  
Primary Examiner  
Art Unit 1619